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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/631,961	08/01/2003	Kiyoshi Kato	33035M129	2527

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EXAMINER

LEPISTO, RYAN A

ART UNIT	PAPER NUMBER
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2883

DATE MAILED: 03/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/631,961

Applicant(s)

KATO ET AL.

Examiner

Ryan Lepisto

Art Unit

2883

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>10/03</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. **Claim 16** is objected to because of the following informalities: On line 23, the word "a" should be omitted because there are plural projections, not a projection.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. **Claims 1-2 and 4-10** are rejected under 35 U.S.C. 102(b) as being anticipated by **Tatoh (US 6,220,765 B1)**. Tatoh teaches an optical module (Fig. 4, 10) comprising a body (1) including an optical element circuit board (7) with a laser diode (6), a first Kovar base (11) (column 9 lines 58-63) that holds the optical element circuit board (7), a second AlN ceramic base (12) (column 9 line 64 through column 10 line 3), an optical component (not shown) including a zirconia ceramic ferrule (column 11 lines 23-24), a tubular Kovar holder (5) (column 10 lines 31-32) for securing the ferrule, a sleeve (not

shown) positioned and welded to the body (column 11 lines 31-33) for securing the ferrule and holder (column 11 lines 27-34), an optical isolator (not shown) and lens (not shown) between the ferrule and the laser diode (6) (column 11 lines 28-29), and thermoelectric cooler (not shown) underneath the laser diode (6) (column 10 lines 42-53).

3. **Claims 1-2 and 5-17** are rejected under 35 U.S.C. 102(e) as being anticipated by Takagi et al (US 6,786,627 B2) (Takagi).

The applied reference has a common inventor and assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Takagi teaches an optical module (Fig. 4, 12) comprising a body (not labeled) including a light emitting device (84), a first Kovar base (83) (column 6 lines 60-61) that holds the optical element circuit board, a second ceramic base (Fig. 1, 101) (column 3 line 47), an optical component including a ferrule (108) (Takagi is silent on the material, so it is inherent that the ferrule material is not critical so a standard, non-metallic material is inherent), a tubular metal holder (part of 106) (column 8 lines 25-26) for securing the ferrule (108), a sleeve (the larger diameter part of 106) positioned and

welded to the body (column 3 lines 52-53) for securing the ferrule (108) and holder (column 8 lines 20-34), an optical isolator (110) and lens (90) between the ferrule and the light emitting element (84), and thermoelectric cooler (96) underneath the light emitting element (84) (column 7 lines 40-60).

Takagi further teaches a connector guide (133) shown in Fig. 12 that is attached to the body and identical in structure to the guide shown in the applicant's disclosure. The guide (133) includes a first end and portion abutting the holder, a second end and portion opposite the first end (where the ferrule (142) exits) for receiving an optical connector, a hole extending from the first to the second end for receiving the ferrule (142), a third portion (part of 133) for securing the holder and the face, a step (133a), the sleeve described above as a part of the guide (and welded as described above) and where the holder (part of 106) inherently abuts an inner surface due to its stepped shape and the insertion shown in Fig. 12.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claim 3** is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Tatch (US 6,220,765 B1) as applied above and **Totoh (US 6,163,072)** (Totoh 2).

Tatoh teaches the optical module with limitations described above used to reject claims 1-2 and 4-10.

Tatoh does not teach expressly a ferrule with two diameters where the smaller diameter portion is inserted into the holder.

Tatoh 2 teaches a similar optical module as Tatoh, but shows more details of the ferrule, holder and sleeve. Tatoh 2 teaches a holder (58), single-diameter ferrule (61) and sleeve (62).

Tatoh and Tatoh 2 are analogous art because they are from the same field of endeavor, optical modules with identical geometries.

At the time the invention was made, it would obvious to a person of ordinary skill in the art to use the single-diameter ferrule as taught by Tatoh 2. Applicant has not disclosed that the stepped ferrule provides an advantage, is used for a particular purpose, or solves a stated problem, in particular, the applicant states that a constant diameter ferrule may be used with the expectation of the same results (page 11 lines 14-15). One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with the constant ferrule as taught by Tatoh 2 because the applicant discloses such ferrule is acceptable.

The motivation for doing so would have been increase functionality by allowing the ferrule to be used with a wider variety of modules and connectors.

5. **Claim 3** is rejected under 35 U.S.C. 103(a) as being unpatentable over Takagi.

Takagi teaches the optical module with limitations described above used to reject claims 1-2 and 5-17.

Takagi does not teach expressly a ferrule with two diameters where the smaller diameter portion is inserted into the holder.

At the time the invention was made, it would be obvious to a person of ordinary skill in the art to use the single-diameter ferrule as taught by Takagi. Applicant has not disclosed that the stepped ferrule provides an advantage, is used for a particular purpose, or solves a stated problem, in particular, the applicant states that a constant diameter ferrule may be used with the expectation of the same results (page 11 lines 4-15). One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with the constant ferrule as taught by Takagi because the applicant discloses such ferrule is acceptable.

The motivation for doing so would have been to increase functionality by allowing the ferrule to be used with a wider variety of modules and connectors.

6. **Claims 11-17** are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Tatch and **Hakogi et al (US 6,135,644)** (Hakogi).

Tatch teaches the optical module with limitations described above used to reject claims 1-2 and 4-10, which is the optical module part of the invention.

Tatch does not teach expressly the connector guide with the limitations described in claims 11-17, connected to the optical module.

Hakogi teaches a connector guide (Fig. 1, 4, 211 with 110) that is a part of the housing body (210) and is similar in structure to the housing body taught by Tatch. The guide (211) includes a first end and portion abutting and integrally formed into the housing (210) section, a second end and portion opposite the first end (where the ferrule (220) exits) for receiving an optical connector (111), a hole extending from the first to the second end for receiving the ferrule (142), a third portion that is integrally formed to the holder and the face, a step (211C), a sleeve (150) having two ends, one for connecting to the module (200) and the other connecting guide connector (110) and a holder (part of 110) that abuts a surface of the sleeve (150).

Hakogi and Tatch are analogous art because they are from the same field of endeavor, optical modules for optical fiber connections to non-fiber semiconductor devices with surrounding housings (class 385, subclasses 92-94).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to include the connector guide as taught by Hakogi at the end of the module as taught by Tatch.

Also, at the time the invention was made, it would obvious to a person of ordinary skill in the art to have the guide being an integral part of the module or to attach it via epoxy or welding. Applicant has not disclosed that welding the sleeve provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with the guide connected to the module in any manner because the invention will not be destroyed nor will the functionality change.

The motivation for doing so would have been to create a hermetically sealed module (Tatoh, column 9 line 56 through column 12 line 2 (example 1)) and to increase functionality by allowing for an easy and efficient ferrule coupling structure (Hakogi, column 1 line 65 through column 2 line 9).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- The following reference relate to the optical module portion of the applicant's invention: Kato et al (US 5,661,835), Aoki (US 5,845,031), Fukuda et al (US 5,675,685), Ishizaka et al (US 5,751,877), Miki et al (US 6,805,494 B2), Shimizu (US 5,960,142), Shinkai et al (US 6,836,490 B2), Takagi (US 6,572,279 B2), Takagi (US 6,646,291 B2), Takagi et al (US 6,244,754 B1), Tanaka et al (US 6,769,819 B2) and Yoshino (US 5,924,290).
- The following references relate to the connector guide portion of the applicant's invention: Ogawa et al (US 6,632,023 B1), Chiang (US 2004/0105239 A1), Yamane et al (US 6,126,325), Kaihara (US 4,762,389) and McNaughton et al (US 4,553,813).

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ryan Lepisto whose telephone number is (571) 272-1946. The examiner can normally be reached on M-F 7:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank Font can be reached on (571) 272-2415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

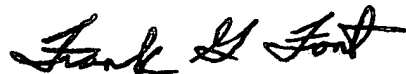
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Ryan Lepisto

Art Unit 2883

Date: 2/24/05



Frank Font

Supervisory Patent Examiner

Technology Center 2800